WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device comprising steps of:

(a) preparing a lead frame having a framework and a plurality of leads inside said framework, wherein the lead width of tips of said leads are smaller than the lead thickness of the tips of said leads;

(b) preparing a plate including a main surface and a back surface opposite to said main surface, said plate having a first portion of said main surface and a second portion of said main surface that is at the outer periphery of said first portion;

(c) preparing a semiconductor chip having a semiconductor element and a plurality of electrodes formed on a principal plane;

(d) fastening said semiconductor chip on said first portion of said plate;

(e) fastening said tips of leads on said second portion of said plate;

(f) after the step (e), bonding wires on said tips of said leads and said electrodes of said semiconductor chip to electrically connect to each other; and

(g) after the step (f), sealing said tips of said leads, said plate, said semiconductor chip and said bonding wires with a molding member.

2. A method of manufacturing a semiconductor device according to claim 1, wherein, in the step (a), the tips of said leads are separated from each other.

3. A method of manufacturing a semiconductor device comprising the steps of:

(a) preparing a lead frame and a semiconductor chip, said lead frame having a plurality of leads and a plate material, said plate material having a chip mounting area for mounting said semiconductor chip, tips of said plurality of leads being fixed to one surface of said plate material and being disposed to surround said chip mounting area of said plate material, each of the tips having a width and a thickness, said width of the tips of said plurality of leads being smaller than said thickness of the tips of said plurality of leads, said semiconductor chip having a main surface and a plurality of bonding pads formed on said main surface;

(b) mounting said semiconductor chip on said chip mounting area of said plate material;

(c) after the steps (a) and (b), electrically connecting said tips of said plurality of leads and said bonding pads of said semiconductor chip by a plurality of bonding wires; and

(d) after the step (c), sealing said tips of said plurality of leads, said plate material, said semiconductor chip and said plurality of bonding wires with a molding member.

4. A method of manufacturing a semiconductor device according to claim 3, wherein said plate material includes a metal plate, and said tips of said plurality of leads are electrically isolated from said metal plate.

5. A method of manufacturing a semiconductor device according to claim 3, wherein said bonding wires includes Au-wire.

6. A method of manufacturing a semiconductor device according to claim 3, wherein said plate material of said lead frame has slits penetrating said plate material in a thickness direction thereof, wherein said slits extend closer to said chip mounting area than said tips of said plurality of leads, and wherein the step (b) is performed such that said semiconductor chip is mounted to partially overlap said slits in a plane view.

7. A method of manufacturing a semiconductor device according to claim 3, wherein said plurality of leads of said lead frame are formed by etching.

8. A method of manufacturing a semiconductor device according to claim 7, wherein said width of each of said plurality of leads is less than 180 μm.

9. A method of manufacturing a semiconductor device according to claim 3, wherein said plurality of leads and said plate material are made of copper.